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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/726,895

12/02/2003

Osamu Kobayashi

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STMICROELECTRONICS, INC.  
MAIL STATION 2346  
1310 ELECTRONICS DRIVE  
CARROLLTON, TX 75006

EXAMINER

CEHIC, KENAN

ART UNIT

PAPER NUMBER

2416

NOTIFICATION DATE

DELIVERY MODE

09/21/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

angie.rodriguez@st.com  
ip.us@st.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/726,895	<b>Applicant(s)</b> KOBAYASHI, OSAMU	
	<b>Examiner</b> KENAN CEHIC	<b>Art Unit</b> 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### Terminal Disclaimer

1. While the applicant states in the remarks (06/08/2009) that a Terminal Disclaimer has been submitted, there are no such documents found in the file of this application.

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-3, 5-9,11-15,17-20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 9, 10, 12-15 of U.S. Patent No. 7068686 in view of Universal Serial Bus Specification, hereinafter D1, MPEG-2 Transmission, hereinafter D2, and Enami et al. (US 2004/0221180)

<b>Instant Application</b>	<b>US 7,068,686</b>
Claims 1,7,13, 19, and 20	See claim 9 “display...transferring information...bi-directional...packet attributes...multimedia data packets...uni-directional main link reduced multimedia data packet header...”; Regarding claim 20, see claim 17 for receiving the stream / packets / information
Claim 2, 8, 14	Claim 9 “virtual links...multi media packet streams...” Claim 10 “packets form”
Claim 3, 9, 15	Claim 10 “adjustable data stream link rate...independent of native”; claim 12
Claim 4, 10, 16	Claim 14 “bi-directional...uni-directional”
Claim 5, 11, 17	Claim 9 “number of virtual links...multi media packet streams...virtual link rate”
Claim 6, 12, 18	Claim 15 “aggregate of the virtual link bandwidths”

U.S. Patent No. 7068686 is silent about:

For claims 1, 7,13, and similarly 19 and 20, includes information used by the device to at least identify the data packets of a particular stream, to recover original data from the data packet stream and to format the data packet stream back to a data packet stream native data rate; sending / receiving information associated with the streaming between the device and the another by way of the auxiliary channel concurrent with the streaming wherein there is no clock line; wherein the main link line is physically separate from the auxiliary channel line.

For claim 19, A computer chip.

D1 from the same field of endeavor discloses the following:

For claim 1, 7,13, and similarly 19, D1 discloses sending information associated with the streaming between a device and another device by way of the auxiliary channel (see page

19 "One message pipe, the Default Control pipe, always exists once a device is powered one..." page 32 figure 5-9 "pipe bundle...default pipe...default control pipe..." page 34, 5.3.11 "USB devices required to implement a default control....uses this default control method...Default control pipe..."; 5.3.2 "Default control pipe..."; page 38-39, 5.5.2 "Each USB device is required to implement the Default Control pipe...additional control pipes...control transfers are supported via bi-directional flow over message pipes";) concurrent with the streaming (see page 278 "10.1.3...continuous...control transfers..."; see page 269-272 "endpoint...Standard Endpoint Descriptor...A feedback endpoint (explicit....needs to be associated with one or more isochronous data endpoints..."; page 33, Figure 5-10, Pipes and Endpoints; page 34 "5.3.2 Pipes...pipe is an association between and endpoint..."; page 72-74 "Asynchronous...data rate feedback..." Table 5-12 "Asynchronous...explicit feedback...adaptive...explicit feedback...5.12.4.1.3....5.12.4.2...Feedback endpoints...bmAttributes..."; page 228-229 8.5.4 and figure 8-38 "Interrupt transaction...return data, NAK or STALL...ACK handshake"; page 206-209 8.4.5 "Handshake packets...response"; see page 43-44 5.5.5 "control transfers...information returned in a handshake...halt condition" AND/OR page 242-244 9.1.1.3 "After the device has been powered...reset...respond...to device and configuration descriptor requests and return information...Before a USB device's function may be used...device must be configure...SetConfiguration()....endpoint... 9.2.3 "A USB device must be configured before its functions may be used"); wherein there is no clock line (see page 7 "Non Return to Zero Invert...Eliminates the need for clock pulses"; see page 132 Figure 7-12, Vbus, D+, D-, GND, page 86 6.3 "two power

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conductors and two signal conductors; no clock line is used; see page 157 “NRZI...bit stuffing...sync)

For claim 19, D1 discloses A computer chip (see page 143 Figure 7-23);

D2 from the same field of endeavor discloses the following:

For claim 1, 7,13, and similarly 19, D2 discloses information used by the another device to at least identify the data packets of a particular stream (see pages 1-2 “Elementary Stream...packets...protocol header...one byte stream ID...”), to recover original data from the data packet stream (see pages 1-2 “Elementary Stream...packets...protocol header...PES\_scrambling\_Control...defines...the chosen scrambling method...presentation time stamp...Decode time stamp...used to synchronies a set of elementary streams and control the rate at which they are replayed...Elementary Stream rate...”) and to format the data packet stream back to a data packet stream native data rate (see pages 1-2 “Elementary Stream...packets...protocol header...presentation time stamp...Decode time stamp...used to synchronies a set of elementary streams and control the rate at which they are replayed...Elementary Stream rate...”); streaming multi-media packets (see pages 1-2 pages 1-2 “Elementary Stream...packets...protocol header

Enami from the same or similar field of endeavor discloses the following:

For claim 1, 7,13, and similarly 19, Enami discloses wherein the main link line is physically separate from the auxiliary channel line (see fig. 1 and 7; 16, 18; sections 0011-15 "two USB ports...")

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify / combine the features of U.S. Patent No. 7068686 by using the

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above recited features, as taught by D1, D2 and Enami , in order to provide transfer of data that has a guaranteed maximum service period, retry of transfer attempts at the next period, and guarantee access to bandwidth with bounded latency, guaranteed constant data rate, thus being able to accommodate a wide range of transmission requirements for data (see D1 page 44 5.6; page 58 5.7); in order to provide a data structure for video/audio transmission which enables scrambling, copyright information and information to correctly / securely process and output audio/video to the user properly and without adverse effects of transmission (see D2 pages 1-2); in order to provide improved bandwidth / transfers speeds so that higher bandwidth content (such as high quality video and sound) can be transmitted to a output device, which enhances the users experience (see Enami section 0011-15)

3. Claims 1-3, 5-9,11-15,17-20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 7177329 in view of Universal Serial Bus Specification, hereinafter D1, MPEG-2 Transmission, hereinafter D2, and Enami et al. (US 2004/0221180).

<b>Instant Application</b>	<b>US 7,177,329</b>
Claims 1,7,13, 19, and 20	See claim 1 “display... bi-directional...packet attributes...uni-directional main link... multimedia data packets...separate clock signal lines... headers...reduced in size... prior”; Regarding claim 20, see claim 2 for receiving

	the stream / packets / information
Claim 2, 8, 14	Claim 3 “from...packet stream”
Claim 3, 9, 15	Claim 4 “adjustable data stream link rate...independent of native”;
Claim 4, 10, 16	Claim 5 “bi-directional...uni-directional”
Claim 5, 11, 17	Claim 6 “number of virtual links...multi media packet streams...virtual link rate”
Claim 6, 12, 18	Claim 7 “aggregate of the virtual link bandwidths”

U.S. Patent No. 7177329 is silent about:

For claims 1, 7,13, and similarly 19 and 20includes information used by the device to at least identify the data packets of a particular stream, to recover original data from the data packet stream and to format the data packet stream back to a data packet stream native data rate; sending information associated with the streaming between the device and the another by way of the auxiliary channel concurrent with the streaming; wherein the main link line is physically separate from the auxiliary channel line.

For claim 19, A computer chip;

D1 from the same field of endeavor discloses the following:

For claim 1, 7,13, and similarly 19, D1 discloses sending information associated with the streaming between a device and another device by way of the auxiliary channel (see page 19 “One message pipe, the Default Control pipe, always exists once a device is powered one...” page 32 figure 5-9 "pipe bundle...default pipe...default control pipe..." page 34, 5.3.11 “USB devices required to implement a default control....uses this default control method...Default control pipe...”; 5.3.2 “Default control pipe...”; page 38-39, 5.5.2



"Each USB device is required to implement the Default Control pipe...additional control pipes...control transfers are supported via bi-directional flow over message pipes";)

concurrent with the streaming (see page 278 "10.1.3...continuous...control transfers..."; see page 269-272 "endpoint...Standard Endpoint Descriptor...A feedback endpoint (explicit...needs to be associated with one or more isochronous data endpoints..."; page 33, Figure 5-10, Pipes and Endpoints; page 34 "5.3.2 Pipes...pipe is an association between an endpoint..."; page 72-74 "Asynchronous...data rate feedback..." Table 5-12 "Asynchronous...explicit feedback...adaptive...explicit feedback...5.12.4.1.3...5.12.4.2...Feedback endpoints...bmAttributes..."; page 228-229 8.5.4 and figure 8-38 "Interrupt transaction...return data, NAK or STALL...ACK handshake"; page 206-209 8.4.5 "Handshake packets...response"; see page 43-44 5.5.5 "control transfers...information returned in a handshake...halt condition" AND/OR page 242-244 9.1.1.3 "After the device has been powered...reset...respond...to device and configuration descriptor requests and return information...Before a USB device's function may be used...device must be configured...SetConfiguration()...endpoint... 9.2.3 "A USB device must be configured before its functions may be used");

For claim 19, D1 discloses A computer chip (see page 143 Figure 7-23);

For claim 4, 10, 16, D1 discloses included as part of the main link (see page 72-73 Table 5-12 "Asynchronous...Source ...provides implicit feedforward (data stream)...Asynchronous...5.12.4.1.1..."; page 32 figure 5-9 Host, Pipe bundle "Each endpoint...simplex connection that supports data flow in one direction..."; page 60

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“5.11.1.1...set of pipes...it needs to manipulate”; see page 20 “4.7 “set of uni-directional pipes” )

D2 from the same field of endeavor discloses the following:

For claim 1, 7,13, and similarly 19, D2 discloses information used by the another device to at least identify the data packets of a particular stream (see pages 1-2 “Elementary Stream...packets...protocol header...one byte stream ID...”), to recover original data from the data packet stream (see pages 1-2 “Elementary Stream...packets...protocol header...PES\_scrambling\_Control...defines...the chosen scrambling method...presentation time stamp...Decode time stamp...used to synchronies a set of elementary streams and control the rate at which they are replayed...Elementary Stream rate...” and to format the data packet stream back to a data packet stream native data rate (see pages 1-2 “Elementary Stream...packets...protocol header...presentation time stamp...Decode time stamp...used to synchronies a set of elementary streams and control the rate at which they are replayed...Elementary Stream rate...”); streaming multi-media packets (see pages 1-2 pages 1-2 “Elementary Stream...packets...protocol header

Enami from the same or similar field of endeavor discloses the following:

For claim 11, 7,13, and similarly 19, Enami discloses wherein the main link line is physically separate from the auxiliary channel line (see fig. 1 and 7; 16, 18; sections 0011-15 "two USB ports...")

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify / combine the features of U.S. Patent No. 7177329 by using the above recited features, as taught by D1, D2 , and Enami in order to provide transfer of data that has a guaranteed maximum service period, retry of transfer attempts at the next period, and guarantee access to bandwidth with bounded latency, guaranteed constant data rate, thus being able to accommodate a wide range of transmission requirements for data (see D1 page 44 5.6; page 58 5.7); in order to provide a data structure for video/audio transmission which enables scrambling, copyright information and information to correctly / securely process and output audio/video to the user properly and without adverse effects of transmission (see D2 pages 1-2); in order to provide improved bandwidth / transfers speeds so that higher bandwidth content (such as high quality video and sound) can be transmitted to a output device, which enhances the users experience (see Enami section 0011-15)

4. Claims 1-3, 5-9,11-15,17-20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of copending Application No. 10726350 in view of Universal Serial Bus Specification, hereinafter D1, MPEG-2 Transmission, hereinafter D2 and Enami et al. (US 2004/0221180).

This is a provisional obviousness-type double patenting rejection.

<b>Instant Application</b>	<b>US 7,068,686</b>
Claims 1,7,13, 19, and 20	See claims 1, 7,13

	“bidirectional...unidirectional...prior to commencement...attributes...reduced size...transmitting...reduced size...over main link”;
Claim 2, 8, 14	Claim 2, 8, 14 “packets form”
Claim 3, 9, 15	Claim 3,9,15 “adjustable data stream link rate...independent of native”;
Claim 4, 10, 16	Claim 1, 7, 13 “unidirectional...bi-directional”
Claim 5, 11, 17	Claim 5, 11, 17 “number of virtual links...multi media packet streams...virtual link rate”
Claim 6, 12, 18	Claim 6, 12, 18 “aggregate of the virtual link bandwidths”

Application No. 10726350 is silent about:

For claims 1, 7,13, and similarly 19 and 20includes information used by the device to at least identify the data packets of a particular stream, to recover original data from the data packet stream and to format the data packet stream back to a data packet stream native data rate; sending information associated with the streaming between the device and the another by way of the auxiliary channel concurrent with the streaming wherein there is no clock line and no separate clock signal between multimedia source device and the sink device

For claim 19, A computer chip;

D1 from the same field of endeavor discloses the following:

For claim 1, 7,13, and similarly 19, D1 discloses sending information associated with the streaming between a device and another device by way of the auxiliary channel (see page 19 “One message pipe, the Default Control pipe, always exists once a device is powered one...” page 32 figure 5-9 "pipe bundle...default pipe...default control pipe..." page 34, 5.3.11 “USB devices required to implement a default control....uses this default control

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method...Default control pipe...”; 5.3.2 “Default control pipe...”; page 38-39, 5.5.2 “Each USB device is required to implement the Default Control pipe...additional control pipes...control transfers are supported via bi-directional flow over message pipes”); concurrent with the streaming (see page 278 “10.1.3...continuous...control transfers...”; see page 269-272 “endpoint...Standard Endpoint Descriptor...A feedback endpoint (explicit...needs to be associated with one or more isochronous data endpoints...”; page 33, Figure 5-10, Pipes and Endpoints; page 34 “5.3.2 Pipes...pipe is an association between and endpoint...”; page 72-74 “Asynchronous...data rate feedback...” Table 5-12 “Asynchronous...explicit feedback...adaptive...explicit feedback...5.12.4.1.3...5.12.4.2...Feedback endpoints...bmAttributes...”; page 228-229 8.5.4 and figure 8-38 “Interrupt transaction...return data, NAK or STALL...ACK handshake”; page 206-209 8.4.5 “Handshake packets...response”; see page 43-44 5.5.5 “control transfers...information returned in a handshake...halt condition” AND/OR page 242-244 9.1.1.3 “After the device has been powered...reset...respond...to device and configuration descriptor requests and return information...Before a USB device’s function may be used...device must be configure...SetConfiguration()...endpoint... 9.2.3 “A USB device must be configured before its functions may be used”); wherein there is not clock line and no separate clock signal in USB (see page 7 “Non Return to Zero Invert...Eliminates the need for clock pulses”; see page 132 Figure 7-12, Vbus, D+, D-, GND, page 86 6.3 “two power conductors and two signal conductors; no clock line is used; see page 157 “NRZI...bit stuffing...sync)

For claim 19, D1 discloses A computer chip (see page 143 Figure 7-23);

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For claim 4, 10, 16, D1 discloses included as part of the main link (see page 72-73 Table 5-12 “Asynchronous...Source ...provides implicit feedforward (data stream)...Asynchronous...5.12.4.1.1...”; page 32 figure 5-9 Host, Pipe bundle “Each endpoint...simplex connection that supports data flow in one direction....”; page 60 “5.11.1.1...set of pipes...it needs to manipulate”; see page 20 “4.7 “set of uni-directional pipes” )

D2 from the same field of endeavor discloses the following:

For claim 1, 7,13, and similarly 19, D2 discloses information used by the another device to at least identify the data packets of a particular stream (see pages 1-2 “Elementary Stream...packets...protocol header...one byte stream ID...”), to recover original data from the data packet stream (see pages 1-2 “Elementary Stream...packets...protocol header...PES\_scrambling\_Control...defines...the chosen scrambling method...presentation time stamp...Decode time stamp...used to synchronies a set of elementary streams and control the rate at which they are replayed...Elementary Stream rate...” ) and to format the data packet stream back to a data packet stream native data rate (see pages 1-2 “Elementary Stream...packets...protocol header...presentation time stamp...Decode time stamp...used to synchronies a set of elementary streams and control the rate at which they are replayed...Elementary Stream rate...”); streaming multi-media packets (see pages 1-2 pages 1-2 “Elementary Stream...packets...protocol header

Enami from the same or similar field of endeavor discloses the following:

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For claim 1, 7,13, and similarly 19, Enami discloses wherein the main link line is physically separate from the auxiliary channel line (see fig. 1 and 7; 16, 18; sections 0011-15 "two USB ports...")

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify / combine the features of Application No. 10726350 by using the above recited features, as taught by D1, D2 , and Enami in order to provide transfer of data that has a guaranteed maximum service period, retry of transfer attempts at the next period, and guarantee access to bandwidth with bounded latency, guaranteed constant data rate, thus being able to accommodate a wide range of transmission requirements for data (see D1 page 44 5.6; page 58 5.7); in order to provide a data structure for video/audio transmission which enables scrambling, copyright information and information to correctly / securely process and output audio/video to the user properly and without adverse effects of transmission (see D2 pages 1-2); in order to provide improved bandwidth / transfers speeds so that higher bandwidth content (such as high quality video and sound) can be transmitted to a output device, which enhances the users experience (see Enami section 0011-15)

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KENAN CEHIC whose telephone number is (571)270-3120.

The examiner can normally be reached on Monday through Friday 8:00-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KWANG BIN YAO can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kenan Cehic/  
Examiner, Art Unit 2416

/KWANG B. YAO/  
Supervisory Patent Examiner, Art Unit 2416